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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PHAM, KHANH B

ART UNIT PAPER NUMBER

2166

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/003,186	Applicant(s) ENNIS ET AL.	
	Examiner Khanh B. Pham	Art Unit 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24,33-48 and 61-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24,33-48 and 61-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.
2. Applicant's submission filed on February 17, 2006 has been entered. Claims 25-32 have been canceled. Claims 63-70 have been added. Claims 1, 9, 17, 33, 41 have been amended. Claims 1-24, 33-48 and 61-70 are pending in this Office Action.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-24 and 33-48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 17-24 are directed to "an apparatus". However, all components of the claimed "apparatus" are, or could be implemented, using software routine. The claimed "apparatus" therefore isn't really an apparatus, it's software per se; lacking any hardware to make it an actual apparatus. The claims need to recite at least one hardware component which enables the functionality to be realized.

Claims 33-48 are directed to "a computer readable medium comprising instructions", where the specification does not provide antecedent basis for the term "computer readable medium". In the context of the claim, the "computer readable medium" could be interpreted as a set of instructions. The claimed subject matter are therefore directed to a set of instructions and rejected as not being tangibly embodied.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-24,33-48 and 61-70** rejected under 35 U.S.C. 103(a) as being unpatentable over Bracho et al. (US 5,974,417 A), hereinafter "Bracho" and in view of Applicant admitted prior art (Specification pages 1-3), hereinafter "AAPA".

As per claims 1, 9, Bracho teaches a method for facilitating publish/subscribe communication within a network switch (see Fig. 1) comprising;

- "a communication coordinator within one of the plurality of line modules to receive publications made to one or more event names receiving a subscription request over the second communication network, said subscription request comprising an event expression that includes a namespace that can be

correlated to a plurality of different event names” Col. 10 line 65 to Col. 11 line 25 and Col. 15 lines 40-62;

- “accessing within a control module connected to said plurality of line modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes” at Col. 5 lines 5-25, Col. 10 lines 1-34 and Fig. 5;
- “resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name” at Col. 2 lines 24-31 and Col. 5 lines 5-25

Bracho teaches the method implemented in a hub, which is similar to a switch, but does not explicitly teaches the structure of the network switch as recited in the preamble.

However, AAPA teaches a typical network switch “has at least a switch and plurality of line modules for communicating data from a trunk lines through the switch to other remote trunk lines across respective line module across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules” at pages 1-2. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Bracho with AAPA’s teaching in order to implement Bracho’s publish/subscribe method within the prior art’s switch instead of a

hub. Since all nodes in a network are connected to the switch, implement the publish/subscribe within the switch would make it easier and reduce overhead cost to publish an event to other nodes, as well as subscribe to an event produced by other nodes in the network.

As per claims 17, 33, and 41, Bracho teaches an apparatus and computer readable medium for facilitating publish/subscribe communication within a network switch (See Fig. 1), comprising:

- “a communication coordinator for receiving a subscription request across the second communication network within a line modules to receive publications made to one or more event names” at Col. 4 line 64 to Col. 5 line 4, Col. 10 lines 1-34 and Fig. 5;
- “said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names” at Col. 10 line 65 to Col. 11 line 25 and Col. 15 lines 40-62;
- “accessing within a control module connected to said plurality of line modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes” at Col. 5 lines 5-25, Col. 10 lines 1-34 and Fig. 5;
- “and resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression” at Col. 5 lines 5-25 ,

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- “thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name” at Col. 2 lines 24-31.

Bracho teaches the method implemented in a hub, which is similar to a switch, but does not explicitly teach the structure of the network switch as recited in the preamble.

However, AAPA teaches a typical network switch “has at least a switch and plurality of line modules for communicating data from a trunk lines through the switch to other remote trunk lines across respective line module across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules” at pages 1-2. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Bracho with AAPA's teaching in order to implement Bracho's publish/subscribe method within the prior art's switch instead of a hub. Since all nodes in a network are connected to the switch, implement the publish/subscribe with in the switch would make it easier and reduce overhead cost to publish an event to other nodes, as well as subscribe to an event produced by other nodes in the network.

As per claims 2, 18, 34, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 1, 17, 33 as discussed above, wherein “said event expression comprises one or more wildcard indicators” at Col. 9 lines 5-25.

As per claims 3, 19, 35, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 2, 18, 34 as discussed above, wherein “resolving said event expression comprises: performing pattern matching between said event expression and said particular event name” at Col. 11 lines 3-25.

As per claims 4, 20, 36, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 1, 17, 33 as discussed above, wherein “said namespace is a hierarchical namespace” at Col. 15 lines 40-62.

As per claims 5, 21, 37, Bracho and AAPA teach the method, an apparatus and computer readable medium of claims 4, 20, 36 as discussed above, wherein “said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace” at Col. 9 lines 1-55.

As per claims 6, 22, 38, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 1, 17, 33 as discussed above. Bracho further teaches:

- “said subscription request comprises a set of information pertaining to a subscriber” at Col. 8 lines 17-30;
- “and wherein said method further comprises: in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a communication coordinator associated with said publisher” at Col. 8 lines 30-50.

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- “said communication coordinator being one of a plurality of communication coordinators provided on each of said plurality of line modules within said switch” at Col. 8 lines 30-50.

As per claims 7, 23, 39, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 6, 22, 38 as discussed above. Bracho further teaches:

- “accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes” at Col. 6 lines 55-67;
- “resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name” at Col. 14 lines 50-67;
- “and in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher” at Col. 14 lines 50-67.

As per claims 8, 24, 40, Bracho and AAPA teach the method, apparatus and computer readable medium of claims 7, 23, 39 as discussed above, wherein “said first particular event name and said second particular event name are different event names” at Col. 14 lines 50-67.

As per claims 10, 42, Bracho teaches the method, apparatus and computer readable medium of claims 9, 41 as discussed above, wherein "said event expression comprises one or more wildcard indicators" at Col. 9 lines 1-55.

As per claims 11, 43, Bracho teaches the method, apparatus and computer readable medium of claims 10, 42 as discussed above, wherein "resolving said event expression comprises: performing pattern matching between said event expression and said particular event name" at Col. 11 lines 17-25.

As per claims 12, 44, Bracho teaches the method, apparatus and computer readable medium of claims 9, 41 as discussed above, wherein "said event expression comprises a hierarchical namespace" at Col. 15 lines 40-62.

As per claims 13, 45, Bracho teaches the method, apparatus and computer readable medium of claims 12, 44 as discussed above, wherein "said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace" at Col. 15 lines 40-62 and Col. 9 lines 1-55.

As per claims 14, 46, Bracho teaches the method, apparatus and computer readable medium of claims 9, 41 as discussed above, further comprising: "in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a sender of said publication announcement" at Col. 15 lines 8-39.

As per claims 15, 47, Bracho teaches the method, apparatus and computer readable medium of claims 14, 46 as discussed above, further comprising:

- “receiving a second publication announcement indicating a desire to publish to a second particular event name” at Col. 7 lines 45-67;
- “accessing said set of information pertaining to said subscriber; resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said second particular event name” at Col. 10 lines 20-35 and Col. 11 lines 17-25;
- “and in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a sender of said second publication announcement” at Col. 8 lines 17-30.

As per claims 16, 48, Bracho teaches the method, apparatus and computer readable medium of claims 15, 47 as discussed above, wherein “said first particular event name and said second particular event name are different event names” at Col. 5 lines 10-20.

As per claim 61, Bracho teaches the method of claim 1, wherein “each of said plurality of line modules include a local table in which is stored information pertaining to a particularly one of said plurality of line modules” at Col. 10 lines 1-19.

As per claim 62, Bracho teaches the method of claim 1, wherein

- “the control module includes a namespace server that includes a global table containing all local table information from each of said plurality of line modules” at Col. 10 lines 35-45,

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- "the name server using information in the global table to coordinate communication through out the network switch" at Col. 11 lines 27-39.

Claims 63-70 recite similar limitations as in claims 1-62 and are therefore rejected by the same reasons.

Response to Arguments

6. Applicant's arguments with respect to claims 1-70 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Bracho does not teach the detail structure of the network switch as claimed. However, the claimed network switch is same as prior art switch, as described in the specification at pages 1-2. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Bracho with AAPA's teaching in order to implement Bracho's publish/subscribe method within the prior art's switch instead of a hub. Since all nodes in a network are connected to the switch, implement the publish/subscribe with in the switch would make it easier and reduce overhead cost to publish an event to other nodes, as well as subscribe to an event produced by other nodes in the network.

Conclusion

7. The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is **(571) 272-3574** for faster service.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (571) 272-4116. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh B. Pham
Examiner
Art Unit 2166

April 5, 2006

